

## What's in that Smoke?

What comes out of smoke stacks and exhaust pipes into the air we breathe? Some of the smoke is simply water vapor, which condenses into a whitish cloud before evaporating. Depending on the fuel and how it is burned, the smoke may also contain gases or particles that can be damaging to our health.

The following table lists some of the pollutants associated with smoke from different sources. This list only describes which pollutants are common to these sources, not how much of these pollutants the smoke contains.

**Exhaust smoke:** Most visible tailpipe emissions consist of diesel soot, which includes fine particles that can travel deep into the lungs and cause respiratory symptoms or lung damage. Exhaust smoke with a bluish or blackish color may indicate the vehicle has a mechanical problem and is over polluting.



**Residential heating:** Residential heating by oil or gas tends to burn much cleaner than wood stoves, and EPA-certified wood stoves tend to burn much cleaner than older wood stoves. Using dry, seasoned wood and proper burning practices reduces pollution from wood stoves.

**Open burning:** Camp fires, brush burning, and wildfires are types of wood burning and vary in the amount of pollution released. Burning of trash is strictly illegal, and doing so can release a wide variety of toxins.



**Industrial sources:** Most businesses in New Hampshire combust natural gas or oil. Some may use coal or wood. The larger smoke stacks are built tall to help disperse the pollution before it reaches the ground. Under certain conditions, businesses may be required to obtain a permit and install controls to reduce their emissions.

<b>Fuel Type:</b>	<b>Gasoline</b>	<b>Diesel</b>	<b>Outdoor Wood Burning</b>	<b>Wood Heating</b>	<b>Natural Gas</b>	<b>Oil</b>	<b>Coal</b>	<b>Commercial Incineration of Trash</b>
Examples:	Automobiles, Lawnmowers, Snowmobiles	Trucks	Burning of yard debris	Wood stoves, power plants	Home heating, power plants	Home heating, power plants	Power plants	Industry
<b>Pollutant</b>								
Carbon Dioxide	X	X	X	X	X	X	X	X
Carbon Monoxide	X	X	X	X	X	X	X	X
Sulfur Dioxide	X	X				X	X	X
Nitrogen Oxides	X	X	X	X	X	X	X	X
Particles	X	X	X	X		X	X	X
Volatile Organic Compounds	X	X	X	X		X	X	X
Carcinogens	X	X	X	X		X	X	X
Acetaldehyde	X	X				X	X	
Acids	X	X	X			X	X	X
Arsenic		X	X			X	X	
Benzene	X	X				X	X	
Beryllium		X				X	X	
Bis[2-ethylhexyl] phthalate		X						
1,3-butadiene		X	X					
Byrenes	X	X				X	X	
Cadmium		X	X			X	X	X
Chromium		X				X	X	
Cobalt								
Dioxins/ Furans		X	X	X		X	X	X
Formaldehyde	X	X	X			X	X	
Lead		X	X			X	X	X
Manganese		X	X			X	X	
Mercury		X				X	X	X
Nickel		X				X	X	
PAHs	X	X	X	X		X	X	
PCBs			X					
Potassium			X					X
Selenium						X	X	
Styrene			X			X		
Zinc						X	X	X